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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Martin Dinant Bijker

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EXAMINER

LEE, JAE

ART UNIT

PAPER NUMBER

2895

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,914	Applicant(s) BIJKER ET AL.	
	Examiner JAE LEE	Art Unit 2895	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/16/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/23/2008 have been fully considered but they are not persuasive.

Applicant contends that the amended limitations of independent claim 1 overcomes the prior art of record. Examiner respectfully disagrees and submits that the films formed using plasma processing techniques produce films that are heat-resistant to some degree. However, the claim is not narrow enough to define the degree of how "heat-resistant" the films are. In essence, a given film has some degree of heat-resistivity which the examiner cannot determine with no point of reference.

2. Applicant's arguments with respect to **claims 36 and 37** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-35 rejected under 35 U.S.C. 102(e) as being anticipated by Boxhoorn et al..

Boxhoorn et al discloses a method for manufacturing a functional layer, comprising introducing a sheet, carrier or corrugated material, or a metal non-porous substrate into a process chamber, generating a plasma by a DC plasma cascade source (Paragraphs 0015, 0053, 0056, and 0057), wherein the substrate is adjusted to a treatment temperature (Paragraph 0056), depositing a sputtering first deposition material by sputtering containing compressed powders on the substrate under the influence of the plasma having a volatile compound containing a precursor material which decomposes the first deposition material in the process chamber before the first deposition material has reached the substrate (Paragraph 0034, 0040, 0041, and 0069 and Claims 1, 11, 14, 35, and 38), wherein applying at the same time a PECVD or sputtering second deposition material to the substrate with a second deposition process,' wherein the functional layer has no catalytic function and forms a coating selected from the group consisting of anti-reflective, heat-resistant, and optical coatings, wherein the substrate is moved in the process chamber each time a different part of the substrate contacts the plasma (Paragraphs 0007, 0011, 0014, 0041, 0053, and 0046, and Claims 1, and 14), wherein the first deposition material is supplied to the plasma outside the plasma source in the process chamber (Paragraphs 0039 and 0040), and wherein the first and/or second deposition material is deposited such that the chemical composition of the deposited material is deposited such that the chemical composition of the deposited material measured over distances of 5cm, differs by less than 10%,

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and the substrate is adjusted to an electrical potential by DC, pulsed DC and/or RF biasing (Paragraph 0070 and Claims 28 and 32).

Boxhoorn et al discloses an apparatus for manufacturing a functional layer on a substrate comprising a process chamber, a DC plasma cascade source, or two DC plasma sources such that opposite sides of the substrate contact the plasmas, to generate a plasma (Paragraphs 0053, 0054, 0056, and 0059), a first vapor deposition material source in a volatile state and supplied using a fluid supply channel, and configured to introduce a first deposition material into the plasma (Paragraphs 0034, 0040, 0069, 0073, and Claims 1, 14, 35, and 38), a substrate positioning device configured to bring and/or keep at least a part of a substrate in such position in the process chamber that the substrate contacts said plasma (Paragraphs 0060-0062), a PECVD source or sputtering electrode second deposition material source configured to deposit a second deposition material on the substrate and the plasma source at the same time, wherein the functional layer having a no catalytically active source, wherein the sputtering electrode abuts the plasma source (Paragraphs 0007, 001 i, 0014, 0046, 0053, and 0055, and Claims 1, and 14), a substrate roller and discharge roller, to supply and discharge, respectively, a substrate that can be rolled up to and from the process chamber (Paragraphs 0057 and 0058), and a deformation means to deform and serrate the substrate which has unrolled from the supply roller (Paragraph 0057).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over Boxhoorn et al. as applied to **claim 1** above, and further in view of Ichihara et al. (Pub No. US 2003/0193857).

With regards to **claim 36**, Boxhoorn et al. teaches the limitations of **claim 1** for the reasons above.

Boxhoorn et al., however, does not teach a method according to **claim 1**, wherein the first deposition material is ZnS and the second deposition material is SiO₂.

In the same field of endeavor, Ichihara et al. teaches a plasma process wherein ZnS and SiO₂ are deposited utilizing a plasma process (see ¶130).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to deposit materials such as ZnS and SiO₂ utilizing plasma processes in order to produce optical disks (see ¶130). Furthermore, such selection of well-known materials do not hold patentable weight unless criticality of the selection of materials are clearly disclosed within the specification (see *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960)).

9. **Claim 37** is rejected under 35 U.S.C. 103(a) as being unpatentable over Boxhoorn et al. as applied to **claim 1** above, and further in view of Shibata (Pub No. US 2004/0150326 A1, hereinafter Shibata).

With regards to **claim 37**, Boxhoorn et al. teaches the limitations of **claim 1** for the reasons above.

Boxhoorn et al., however, does not teach a method according to **claim 1**, wherein the first deposition material is MgF₂ and the second deposition material is TiO₂.

In the same field of endeavor, Shibata teaches how MgF₂ and TiO₂ may be deposited using a plasma method (see ¶64).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize plasma processes to deposit MgF_2 and TiO_2 since this has been made well-known and demonstrated by Shibata that a plasma process can deposit such materials. Furthermore, such selection of well-known materials do not hold patentable weight unless criticality of the selection of materials are clearly disclosed within the specification (see *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960)).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAE LEE whose telephone number is (571)270-1224. The examiner can normally be reached on Monday - Friday, 7:30 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Richards can be reached on 571-272-1736. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jae Lee/
Examiner, Art Unit 2895

JML
/N. Drew Richards/
Supervisory Patent Examiner, Art Unit 2895